THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROSHI MURAMATSU and TATSUAKI ATAKA

Appeal No. 1997-1892
Application 08/209,638

ON BRIEF

Before HAIRSTON, HECKER and LALL, Administrative Patent Judges.

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection[1] of claims 4 to

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[1] A first amendment after the final rejection was filed as paper no. 8, and a second amendment after the final rejection was filed as paper no. 12 (with the brief). Both these amendments have been entered into the record for the purposes of this appeal.

7, 12 and 13.

The disclosed invention relates to a quartz oscillator and an instrument for chemical measurement using the quartz oscillator. The chemical measuring instrument according to the invention employs a quartz oscillator for detecting a physicochemical change of a substance. In one embodiment, the quartz oscillator comprises a quartz crystal substrate, a first electrode disposed on the quartz crystal substrate and having at least two separate electrode portions for contact with a substance to detect a physicochemical change in the substance, and a second electrode disposed on the quartz crystal substrate. In one chemical measuring instrument embodiment, the instrument for detecting a physicochemical change in a substance comprises a piezoelectric characteristic-measuring circuit having an output signal line connected to two capacitors in parallel with the separate electrode portions of the first electrode. An input signal of the piezoelectric characteristic-measuring circuit is connected to the second electrode. The piezoelectric characteristic-measuring circuit can measure the resonant

characteristics of the quartz oscillator. Other embodiments are also disclosed. The chemical measuring instrument of the invention permits the simultaneous measurement of a change in the resonant frequency of the quartz oscillator and the conductivity of a substance to be measured from the electrical current flowing across the surfaces of the electrodes. The invention is further illustrated by the following claim.

Representative claim 4 is reproduced as follows:

4. A chemical measuring instrument for detecting a physicochemical change in a substance, the chemical measuring instrument comprising:

a quartz oscillator having a first electrode comprising at least two separate electrode portions and a second electrode;

piezoelectric characteristic measuring means having an output signal line connected to capacitors connected in parallel to the separate electrode portions of the first electrode, and an input signal line connected to the second electrode;

voltage application means for applying a voltage between the separate electrode portions; and

electrical current measuring means for measuring an electrical current flowing between the separate electrode

portions.

There is no art rejection on appeal.

Claims 4 to 7, 12 and 13 stand rejected under 35 U.S.C. § 112, first paragraph.

Reference is made to Appellants' briefs[2] and the Examiner's answer for their respective positions.

OPINION

We have considered the record before us and we will reverse the rejection of claims 4 to 7, 12 and 13 under 35 U.S.C. § 112, first paragraph.

The test for enablement is whether one skilled in the art could make and use the claimed invention from the disclosure coupled with information known in the art without undue experimentation. See United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988), cert. denied, 109 S.Ct. 1954 (1989); In re Stephens, 529 F.2d 1343,

[2] A reply brief was filed as paper no. 14 and its entry approved by the Examiner without any further response [paper no. 16].

1345, 188 USPQ 659, 661 (CCPA 1976).

Thus, the dispositive issue is whether Appellants' disclosure, considering the level of ordinary skill in the art as of the date of Appellants' application, would have enabled a person of such skill to make and use Appellants' invention without undue experimentation. The threshold step in resolving this issue is to determine whether the Examiner has met his

burden of proof by advancing acceptable reasoning consistent with the enablement requirement.

The Examiner contends [answer, page 2] that "the disclosure is enabling only for claims limited to having a split electrode on one (front) surface and another electrode on the 'back side' surface." The Examiner further alleges [id, 2] that "[t]he disclosed device would be inoperative without the cooperation of all 'three' electrodes; thus the 'backside' surface electrode is essential to the operation of the disclosed device, and claims omitting this feature would be incomplete."

Appellants argue at length [brief, pages 9 to 17 and

reply brief, pages 2 to 9] that the disclosure, as originally filed, is indeed enabling as to the appealed claims. Appellants point out [brief, page 11] that "one ... would know that the two electrodes must be spaced and arranged to attain oscillation of the quartz crystal." Further, Appellants advocate [brief, page 15] that "while being a preferred structural relationship ..., the location of the first electrode ... and the second electrode ... on first and second surfaces ... of the quartz oscillator 101 is certainly not a critical structural relationship." Still

further, Appellants argue [brief, page 16] that "if the invention could be practiced with a cylindrical quartz oscillator with the first and second electrodes located on opposite sides thereof, it could be argued that the electrodes are on the same surface."

We are convinced that Appellants are not strictly limited to claim only the details of the embodiments disclosed in their application. We subscribe to the statement quoted by Appellants on page 8 of the reply brief:

> For all practical purposes, the board would limit appellant to claims involving the specific materials disclosed in the examples, ... However, to provide effective incentives, claims must adequately protect inventors ... .

We agree with the Examiner that there has to be "three electrodes", a first electrode split in two portions and a second electrode away from the first. We note that the claims on appeal do so recite. However, we do not agree with the Examiner that the claims are only limited to the structural relationship shown in Figs. 1 and 2 of the disclosure. Other oscillators of similar structural relationship which would satisfy the needed oscillations requirements would be suitable for the claimed apparatus, such as, an oscillator having the two similar electrodes located on the opposite sides of the same surface, as Appellants have pointed out above.

Therefore, we do not sustain the rejection of claims 4 to 7, 12 and 13 under 35 U.S.C. § 112, first paragraph for lack of enablement.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)	
STUART N. HECKER Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
PARSHOTAM S. LALL Administrative Patent Judge	)	

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